Study Guide: Just-in-Time (JIT)

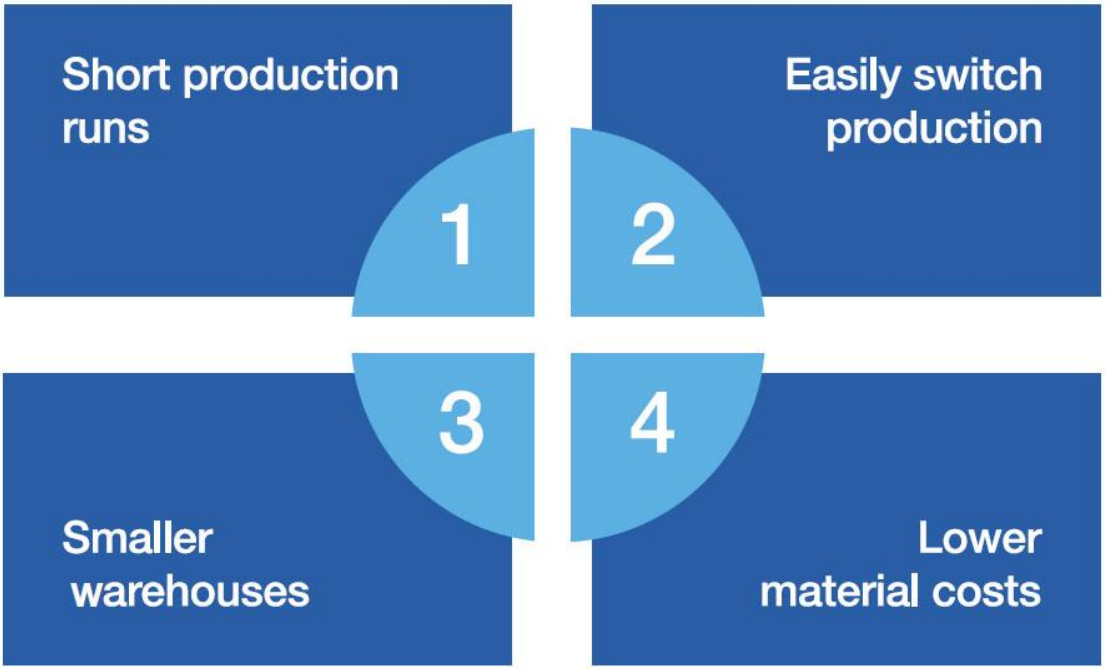
This course will provide a foundational understanding of the principles and tools for Just-in-Time operations. JIT is one of two primary pillars of Lean and will help you understand how this powerful concept can help drive out the cost and complexity of business operations.

What is JIT?

History of JIT

In post-World War II Japan, Toyota invented what is now called Just-in-time

After the war, Japan faced shortages in cash, resources, and free land. Taiichi Ohno began creating the Just-in-time system. Over the 50s, 60's and 70s, the rest of the world began to realize the benefits of JIT and adopted a similar approach.



What is JIT?

The philosophy of JIT is to design business processes to maintain inventories for only what it needs and minimize wait times between each process step.

The biggest immediate savings are mainly around inventory but there are many others.

Prior to JIT, companies would maintain large raw material inventories. When supplies ran low, they'd order another large stock to keep them full for a while. The limiting factor was often the size of the warehouse or storage space. In perishable goods industries, they'd order as much as they could consume before raw materials become obsolete.

Toyota realized that they could simply reorder the smallest practical quantity as it was consumed. This eliminated the need to keep a stockpile of spare parts. This also meant that you no longer needed to carry the enormous cost of warehouse space, power, staff, and security.

How to implement JIT

The first step to implementing JIT is to drive waste out of the conversion process of your business. Ask the question: is this activity adding value in the customer's eyes; and if not, can we do business without it?

You cut everything down to its most efficient form with almost no room for error.

There is a risk to your business if suppliers are unable to deliver on time, in full, and in small quantities. However, it's often worth the risk because the savings on inventory and staff costs can be enormous.

This system forces you to create a working philosophy that there is no room for error or waste. Because you have no spare parts or spare time, you have to make sure everything functions perfectly. With many business decisions, you're forced to sacrifice efficiency in order to increase quality; however, with JIT, it's imperative that you improve quality in order to be efficient.

We can simplify this area of business into two categories: Just-in-Time and Just-in-Case

- Just-in-Case
  - Minimize risk by giving yourself a buffer
    - Carry extra stock so you can swap out faulty materials
    - Hire extra staff in case demand surges
    - Support services that only a few customers demand
- Just-in-Time
  - Minimize cost and maximize quality by working out issues so they don't happen in the first place
    - Increase the ability to adapt to change (agility)